

## Neuroptera and Trichoptera from Costa Rica.

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Dr. P. P. Calvert sent me for determination a small collection of these insects which he made in Costa Rica, together with two specimens given him by Mr. C. H. Lankester. As few species have ever been recorded from that country, the following records will be useful.

[I have added a few notes which are enclosed in square brackets. Most of the specimens will be placed in the Academy of Natural Sciences of Philadelphia.—PHILIP P. CALVERT.]

### NEUROPTERA.

#### **Corydalis crassicornis** McLachl.

Cartago, at the street electric lights in May; Alajuela, Sept. 12, 1909. [According to the late Professor P. Biolley's "Elementos de Historia Natural—Zoologia," San Jose, 1899, the Costa Rican name for *Corydalis* is *Maria seca*, dry Mary.]

#### **Myrmeleon crudelis** Walk.

Mangrove swamp, Puntarenas, 2 Feb., 1910.

#### **Myrmeleon mexicanum** Banks.

Cachi, 21 Sept., 1910 (C. H. Lankester).

#### **Brachynemurus fenestratus** Banks, Trans. Amer. Ent. Soc. xxxix, p. 221, 1913.

In a rice field along the railroad between Turrucare and Atenas, Dec. 21, 1909. Road from Hac. Guachipelin to Liberia, Jan. 17, 1910. The first-named locality is that of the types of this species which were collected by Prof. J. F. Tristan at the same time.

#### **Colobopterus trivialis** Gerst.

Juan Viñas, 3300-3500 ft., June 29, July 30, 1909. [The specimen of June 29 was on a long freely-hanging vine in the deep shade of the ravine of the little Rio Naranjo, the position assumed being such as to give the insect a most stretched-out appearance, as antennae, body, wings and hind legs were held parallel to the vine, the wings folded over the back roof-wise. On July 30 two of this species were pairing on a branch over the "farther" waterfall.]

#### **Ululodes tuberculatus** Banks.

Rio Tizate, Turrucare, 23 Dec., 1909.

**Leucochrysa** sp.

Cachi, 22 Sept., 1910 (C. H. Lankester), near *L. ceratica*, but the basal part of the antennae pale.

**Leucochrysa calverti** n. sp.

Pale yellowish, face unmarked, basal joint of antennæ brown, and a dark spot at outer tip, rest of antennæ pale; a dark spot each side on pronotum, and on anterior and lateral lobes of the thorax; a dark spot on the second segment of the abdomen, and another toward tip; legs pale. Wings hyaline, venation pale, costal end of costals, and radial end of radial cross veins dark; gradates dark, and faintly bordered, outer forkings dark, dark on cubital cross veins, and a rather large spot on origin of radial sector; stigma dark; hind wings have pale venation, stigma and outer cross veins faintly dark.

Pronotum plainly longer than broad, narrowed in front.

Wings of moderate size, fore wings rounded at tip, hind wings acute; four to six gradates in each series of fore wings, five in each series in the hind wings; in fore wings the outer gradates are about as near to the inner as to margin, and inner about as near to radial sector as to outer row; in hind wings inner series nearer to radial sector than to outer series; the divisory veinlet reaches nearly to end of third cubital cell.

Expanse, 23 mm.

Holanda Farm, Banana River District, 5 Nov., 1909 (Calvert). Type in the Academy of Natural Sciences of Philadelphia.

**Leucochrysa ceratica** Navas.

Alajuela, 4 Sept., 1909.

**Chrysopa effusa** Navas.

Cartago, July 9, Aug. 20, 1909. [The specimen of July 9 was reared from a larva collected June 17. The larval covering, to which the maker had attached fragments of the bodies of the insects on which it fed, had its free edge drawn partly together with silk to form the pupa case.]

## TRICHOPTERA.

**Leptonema albovirens** Walk.

Cartago, 13 July, 1909, in daylight; another specimen found floating in the Rio Grande de Tarcoles, near the Cebadilla electric plant, April 12, 1910.

**Heteroplectron maculatum** Banks.

Flying over river, close to water's surface, just after sunset, Rio Liberia, Liberia, Guanacaste, 11 Jan., 1910.